NELAC PT for Accreditation
Fields of Proficiency Testing with PTRLs
Drinking Water
Effective June 1, 2005

Matrix	EPA Analyte Code	NELAC Analyte Code	Analyte	Conc Range	Acceptance Criteria[3,4,5,6] a	b	c	d	NELAC PTRL[8]
			Microbiology	CFU/ml					CFU/ml
Drinking Water	0254	2500	Total Coliform		Nine out of ten with no false negatives				Not Applicable
Drinking Water	0255	2530	Fecal Coliform/E.Coli		Nine out of ten with no false negatives				Not Applicable
Drinking Water	0258	2555	Heterotrophic Plate Count[10]	5 to 500	Log transform Mean ± 2 SD				1
			Trace Metals	µg/L					µg/L
Drinking Water	0235	1000	Aluminum	130 to 2500	0.9794	7.3294	0.0560	9.0443	100
Drinking Water	0140	1005	Antimony	6 to 50	±30% fixed acceptance limit				4.2
Drinking Water	0001	1010	Arsenic	25 to 150	±30% fixed acceptance limit				20.0
Drinking Water	0002	1015	Barium	500 to 3000	±15% fixed acceptance limit				420
Drinking Water	0141	1020	Beryllium	1 to 10	±15% fixed acceptance limit				0.85
Drinking Water	0226	1025	Boron	800 to 2000	0.9815	13.9870	0.0603	-3.4879	700
Drinking Water	0003	1030	Cadmium	2 to 50	±20% fixed acceptance limit				1.6
Drinking Water	0283	1035	Calcium	30 to 90 mg/L	0.9879	0.7217	0.0490	0.3252	26
Drinking Water	0004	1040	Chromium	10 to 200	±15% fixed acceptance limit				8.5
Drinking Water	0091	1055	Copper	50 to 2000	±10% fixed acceptance limit				45
Drinking Water	0284	1070	Iron	100 to 1800	0.9928	-0.4168	0.0430	8.3223	70
Drinking Water	0005	1075	Lead	5 to 100	±30% fixed acceptance limit				3.5
Drinking Water	0285	1085	Magnesium	2.0 to 20.0 mg/L	1.0071	0.0229	0.0490	0.0580	1.7
Drinking Water	0236	1090	Manganese	40 to 900	0.9857	1.5696	0.0416	1.3179	35
Drinking Water	0006	1095	Mercury	0.5 to 10	±30% fixed acceptance limit				0.35
Drinking Water	0237	1100	Molybdenum	15 to 130	0.9865	0.1021	0.0519	0.7031	12
Drinking Water	0142	1105	Nickel	10 to 500	±15% fixed acceptance limit				8.5
Drinking Water	0286	1125	Potassium	10 to 40 mg/L	0.9740	0.7317	0.0543	0.4017	8.5
Drinking Water	0007	1140	Selenium	10 to 100	±20% fixed acceptance limit				8.0
Drinking Water	0008	1150	Silver	20 to 300	0.9942	0.1099	0.0514	0.9006	16
Drinking Water	0143	1165	Thallium	2 to 10	±30% fixed acceptance limit				1.4
Drinking Water	0238	1185	Vanadiun	315 to 2500	±10% fixed acceptance limit				280
Drinking Water	0239	1190	Zinc	400 to 2500	±10% fixed acceptance limit				360
			Minerals	mg/L					mg/L
Drinking Water	0287	1575	Chloride	5 to 100	1.0001	0.0804	0.0385	0.5789	3.5
Drinking Water	0010	1730	Fluoride	1 to 8	±10% fixed acceptance limit				0.90
Drinking Water	0009	1810	Nitrate as N	3 to 10	±10% fixed acceptance limit				2.7
Drinking Water	0092	1840	Nitrite as N	0.4 to 2	±15% fixed acceptance limit				0.34
Drinking Water		1820	Nitrate + Nitrite as N	3.5 to 9.0	0.9837	-0.0123	0.0336	0.0566	3.0
Drinking Water	0261	1870	Ortho-Phosphate	0.5 to 5.5	1.0026	0.0055	0.0537	0.0268	0.40

NELAC PT for Accreditation
Fields of Proficiency Testing with PTRLs
Drinking Water
Effective June 1, 2005

Matrix	EPA Analyte Code	NELAC Analyte Code	Analyte	Conc Range	Acceptance Criteria[3,4,5,6] a	b	c	d	NELAC PTRL[8]
			Inorganic Disinfection By-Products	µg/L					µg/L
Drinking Water	0193	1535	Bromate	7 to 50	See Footnote 9				3.5
Drinking Water	0260	1540	Bromide	75 to 500	1.0106	-2.0482	0.1093	2.4725	52
Drinking Water	0194	1570	Chlorate	60 to 180	0.9435	5.2877	0.048	4.5192	47
Drinking Water	0195	1535	Chlorite	100 to 1000	See Footnote 9				50
			Misc Analytes	mg/L					mg/L
Drinking Water	0027	1505	Alkalinity as $CaCO_3$/L	25 to 200	0.9738	1.3564	0.0190	1.1222	23
Drinking Water	0253	1520	Asbestos	1.5 to 20 MF/L	study mean		0.6037	0.0731	1.4
Drinking Water	0025	1550	Ca Hardness as $CaCO_3$	75 to 375	0.9879	1.7788	0.0490	0.8015	66
Drinking Water		1755	Total Hardness as CaCO3	83 to 307	See Footnote 10				74
Drinking Water	0146	1635	Cyanide	0.1 to 0.5	±25% fixed acceptance limit				0.075
Drinking Water	0026	1900	pH	5 to 10 units	± 0.2 units fixed acceptance limit				Not Applicable
Drinking Water	0022	1945	Residual Free Chlorine	0.5 to 3.0	1.0000	0.0004	0.0776	0.0246	0.37
Drinking Water		1940	Total Residual Chlorine	0.5 to 3.0	1.0000	-0.0048	0.0723	0.0065	0.40
Drinking Water	0029	1155	Sodium	12 to 24	0.9957	-0.0609	0.0483	0.1224	11
Drinking Water	0288	1610	Specific Conductance	250 to 2500 µmhos	±10% fixed acceptance limit				225
Drinking Water	0145	2000	Sulfate	5 to 500	1.0005	-0.2523	0.0544	0.5480	3.1
Drinking Water	0024	1955	Total Filterable Residue	200 to 450 as measured	study mean		0.1956	-6.683	135
Drinking Water	0263	2040	Total Organic Carbon	1.2 to 4.9	0.9873	0.0565	0.0643	0.0769	0.93
Drinking Water	0023	2055	Turbidity	0.5 to 8 NTU	1.0185	0.074	0.0623	0.0761	0.37

NELAC PT for Accreditation

Fields of Proficiency Testing with PTRLs

Drinking Water

Effective June 1, 2005

Matrix	EPA Analyte Code	NELAC Analyte Code	Analyte	Conc Range	Acceptance Criteria[3,4,5,6] a	b	c	d	NELAC PTRL[8]
			Regulated VOCs[1,7]	µg/L					µg/L
Drinking Water	0039	4375	Benzene	2.5 to 20	±20% or ±40% acceptance limit				1.5
Drinking Water	0037	4455	Carbon Tetrachloride	2.5 to 20	±20% or ±40% acceptance limit				1.5
Drinking Water	0049	4475	Chlorobenzene	2 to 50	±20% or ±40% acceptance limit				1.2
Drinking Water	0045	4570	1,2-Dibromo-3-chloropropane (DBCP)	0.1 to 2	±40% acceptance limit				0.06
Drinking Water	0054	4610	1,2-Dichlorobenzene	5 to 20	±20% or ±40% acceptance limit				3.0
Drinking Water	0041	4620	1,4-Dichlorobenzene	2.5 to 20	±20% or ±40% acceptance limit				1.5
Drinking Water	0035	4635	1,2-Dichloroethane	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0034	4640	1,1-Dichloroethylene	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0043	4645	Cis-1,2-Dichloroethylene	2 to 50	±20% or ±40% acceptance limit				1.2
Drinking Water	0042	4700	Trans-1,2-Dichloroethylene	2 to 50	±20% or ±40% acceptance limit				1.2
Drinking Water	0055	4975	Dichloromethane (Methylene Chloride)	5 to 20	±20% or ±40% acceptance limit				3.0
Drinking Water	0044	4655	1,2 Dichloropropane	2.5 to 20	±20% or ±40% acceptance limit				1.5
Drinking Water	0048	4765	Ethylbenzene	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0046	4585	Ethylene Dibromide (EDB)	0.2 to 2	±40% acceptance limit				0.10
Drinking Water	0053	5100	Styrene	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0040	5115	Tetrachloroethylene	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0047	5140	Toluene	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0036	5160	1,1,1-Trichloroethane	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0061	5165	1,1,2-Trichloroethane	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0038	5170	Trichloroethylene	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0076	5155	1,2,4-Trichlorobenzene	2 to 20	±20% or ±40% acceptance limit				1.2
Drinking Water	0032	5235	Vinyl Chloride	1 to 50	±40% acceptance limit				0.6
Drinking Water	0090	5260	Total Xylenes	2 to 50	±20% or ±40% acceptance limit				1.2

NELAC PT for Accreditation
Fields of Proficiency Testing with PTRLs
Drinking Water
Effective June 1, 2005

Matrix	EPA Analyte Code	NELAC Analyte Code	Analyte	Conc Range	Acceptance Criteria[3,4,5,6] a	b	c	d	NELAC PTRL[8]
			Unregulated VOCs[1,7]	µg/L					µg/L
Drinking Water	0067	4385	Bromobenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0089	4390	Bromochloromethane	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0069	4950	Bromomethane	5 to 50	±40% fixed acceptance limit				3.0
Drinking Water	0079	4435	n-Butylbenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0086	4440	Sec-Butylbenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0085	4445	Tert-Butylbenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0070	4485	Chloroethane	5 to 50	±40% fixed acceptance limit				3.0
Drinking Water	0068	4960	Chloromethane	5 to 50	±40% fixed acceptance limit				3.0
Drinking Water	0071	4535	2-Chlorotoluene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0072	4540	4-Chlorotoluene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0057	4595	Dibromomethane	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0066	4615	1,3-Dichlorobenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0088	4625	Dichlorodifluoromethane	5 to 50	±40% fixed acceptance limit				3.0
Drinking Water	0056	4630	1,1-Dichloroethane	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0059	4660	1,3-Dichloropropane	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0060	4665	2,2-Dichloropropane	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0058	4670	1,1-Dichloropropene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0152	4680	Cis-1,3-Dichloropropene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0153	4685	Trans-1,3-Dichloropropene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0081	4835	Hexachlorobutadiene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0084	4900	Isopropylbenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0083	4910	4-Isopropyltoluene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water		5000	Methyl-tert-butylether (MTBE)	5 to 50	±40% fixed acceptance limit				3.0
Drinking Water	0078	5090	n-Propylbenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0063	5105	1,1,1,2-Tetrachloroethane	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0065	5110	1,1,2,2-Tetrachloroethane	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0077	5150	1,2,3-Trichlorobenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0087	5175	Trichlorofluoromethane	5 to 50	±40% fixed acceptance limit				3.0
Drinking Water	0064	5180	1,2,3-Trichloropropane	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0075	5210	1,2,4-Trimethylbenzene	5 to 50	±20% or ±40% acceptance limit				3.0
Drinking Water	0082	5215	1,3,5-Trimethylbenzene	5 to 50	±20% or ±40% acceptance limit				3.0

NELAC PT for Accreditation
Fields of Proficiency Testing with PTRLs
Drinking Water
Effective June 1, 2005

Matrix	EPA Analyte Code	NELAC Analyte Code	Analyte	Conc Range	Acceptance Criteria[3,4,5,6] a	b	c	d	NELAC PTRL[8]
			Pesticides[1]	µg/L					µg/L
Drinking Water	0093	7005	Alachlor	2 to 20	±45% fixed acceptance limit				1.1
Drinking Water	0256	7025	Aldrin	0.4 to 2	0.8453	-0.0077	0.2054	0.0048	0.15
Drinking Water	0094	7065	Atrazine	3 to 30	±45% fixed acceptance limit				1.6
Drinking Water		7160	Butachlor	8 to 80	0.8796	0.7839	0.1805	0.2030	4.5
Drinking Water	0097	7250	Chlordane (technical)	2 to 20	±45% fixed acceptance limit				1.1
Drinking Water	0258	7470	Dieldrin	0.5 to 3	0.9418	0.0450	0.1607	0.0199	0.32
Drinking Water	0011	7540	Endrin	0.1 to 5	±30% fixed acceptance limit				0.070
Drinking Water	0095	7685	Heptachlor	0.4 to 5	±45% fixed acceptance limit				0.22
Drinking Water	0096	7690	Heptachlor Epoxide (beta)	0.2 to 5	±45% fixed acceptance limit				0.11
Drinking Water	0172	6275	Hexachlorobenzene	0.5 to 4	0.8546	0.0277	0.1954	0.0199	0.22
Drinking Water	0112	6285	Hexachlorocyclopentadiene	2 to 30	0.7942	0.0799	0.2990	0.1179	0.24
Drinking Water	0012	7120	Lindane	0.2 to 5	±45% fixed acceptance limit				0.11
Drinking Water	0013	7810	Methoxychlor	10 to 100	±45% fixed acceptance limit				5.5
Drinking Water		7835	Metolachlor	8 to 80	0.8477	1.5874	0.1813	0.1005	5.3
Drinking Water		7845	Metribuzin	2 to 60	0.7942	0.5152	0.2934	0.1413	0.64
Drinking Water	0259	8045	Propachlor	1 to 4	1.0037	-0.0645	0.1832	0.0418	0.48
Drinking Water	0113	8125	Simazine	4 to 40	0.7811	0.9474	0.2832	0.369	1.0
Drinking Water	0014	8250	Toxaphene (total)	3 to 20	±45% fixed acceptance limit				1.6
Drinking Water	0244	8295	Trifluralin	1.0 to 5	0.9013	-0.0331	0.1513	0.1195	0.33
			Herbicides[1]	µg/L					µg/L
Drinking Water	0262	8505	Acifluorfen	15 to 50	0.8871	0.1105	0.0885	5.4843	1.5
Drinking Water	0015	8545	2,4-D	5 to 150	±50% fixed acceptance limit				2.5
Drinking Water		8560	2,4-DB	15 to 100	0.8236	1.9181	0.1825	1.3935	6.0
Drinking Water	0115	8555	Dalapon	10 to 150	0.6178	1.0356	0.3451	2.3812	1.0
Drinking Water	0247	8595	Dicamba	5 to 100	0.8118	0.8711	0.2789	0.0923	1.9
Drinking Water	0116	8620	Dinoseb	6 to 50	0.8433	-1.1850	0.2958	0.1879	0.95
Drinking Water	0137	9390	Diquat	8 to 40	0.7102	1.729	0.385	-1.4335	4.1
Drinking Water	0138	7525	Endothall	90 to 500	0.849	9.3243	0.2733	-1.0969	38
Drinking Water	0139	9411	Glyphosate	375 to 800	0.9285	41.0369	0.0677	10.6168	320
Drinking Water	0102	6605	Pentachlorophenol	1 to 100	±50% fixed acceptance limit				0.50
Drinking Water	0117	8645	Picloram	10 to 70	0.8189	0.0626	0.2888	0.2204	2.0
Drinking Water	0016	8650	2,4,5-TP (Silvex)	5 to 150	±50% fixed acceptance limit				2.5
Drinking Water		8655	2,4,5-T	10 to 100	0.8309	1.1211	0.2183	0.5680	3.9

NELAC PT for Accreditation
Fields of Proficiency Testing with PTRLs
Drinking Water
Effective June 1, 2005

Matrix	EPA Analyte Code	NELAC Analyte Code	Analyte	Conc Range	Acceptance Criteria[3,4,5,6] a	b	c	d	NELAC PTRL[8]
			Organic Disinfection By-Products	µg/L					µg/L
Drinking Water	0165	4460	Chloral Hydrate	4 to 30	0.9300	-0.4088	0.3306	0.3088	0.40
Haloacetic acids									
Drinking Water	0250	9315	Bromochloroacetic Acid	10 to 50	±40% fixed acceptance limit				6.0
Drinking Water	0157	9357	Dibromoacetic Acid	10 to 50	See Footnote 9				5.0
Drinking Water	0158	9360	Dichloroacetic Acid	10 to 50	See Footnote 9				5.0
Drinking Water	0160	9312	Monobromoacetic Acid	10 to 50	See Footnote 9				5.0
Drinking Water	0161	9336	Monochloroacetic Acid	10 to 50	See Footnote 9				5.0
Drinking Water	0162	9642	Trichloroacetic Acid	10 to 50	See Footnote 9				5.0
Trihalomethanes									
Drinking Water	0019	4395	Bromodichloromethane	10 to 50	See Footnote 9				5.0
Drinking Water	0018	4400	Bromoform	10 to 50	See Footnote 9				5.0
Drinking Water	0020	4575	Chlorodibromomethane	10 to 50	See Footnote 9				5.0
Drinking Water	0017	4505	Chloroform	10 to 50	See Footnote 9				5.0
Drinking Water	0021	5205	Total Trihalomethanes	40 to 200	See Footnote 9				20
			Adipate/Phthalate	µg/L					µg/L
Drinking Water	0134	6062	Di(2-Ethylhexyl) Adipate	8 to 50	0.9443	-0.6332	0.2375	0.752	1.6
Drinking Water	0136	6065	Di(2-Ethylhexyl) Phthalate	9 to 50	1.012	-0.6622	0.2791	0.1121	3.1
			PCBs in Water[2]	µg/L					µg/L
Drinking Water	0118	9105	PCBs as decachlorobiphenyl	0.5 to 5	±100% fixed acceptance limit				0.05
Drinking Water		8872	PCB Aroclor Identification		Correct identification of Aroclor examined				
			PAH	µg/L					µg/L
Drinking Water	0122	5580	Benzo(a)pyrene	0.2 to 2.5	0.8217	0.0455	0.2640	-0.0541	0.10
			Carbamates & Vidate	µg/L					µg/L
Drinking Water	0098	7010	Aldicarb	15 to 50	1.0183	-0.5229	0.1175	0.1852	11
Drinking Water	0099	7015	Aldicarb Sulfone	19 to 50	0.9909	0.4106	0.1356	-0.8493	16
Drinking Water	0100	7020	Aldicarb Sulfoxide	15 to 50	0.8943	1.1141	0.1078	0.3643	11
Drinking Water		7195	Carbaryl	20 to 100	0.9067	0.1798	0.0938	-0.0024	14
Drinking Water	0101	7205	Carbofuran	15 to 150	±45% fixed acceptance limit				8.3
Drinking Water		7710	3-Hydroxycarbofuran	15 to 75	0.9343	-0.2013	0.0718	0.4949	10
Drinking Water	0245	7805	Methomyl	15 to 90	0.9867	-0.2117	0.0964	-0.1849	12
Drinking Water	0114	7940	Oxamyl (Vydate)	30 to 80	0.9781	0.2296	0.1273	-0.7009	23

NELAC PT for Accreditation

Fields of Proficiency Testing with PTRLs

Drinking Water

Effective June 1, 2005

Matrix	EPA Analyte Code	NELAC Analyte Code	Analyte	Conc Range	Acceptance Criteria[3,4,5,6] a	b	c	d	NELAC PTRL[8]
			Dioxin	pg/L					pg/L
Drinking Water	0252	9618	2,3,7,8-Tetrachloro-dibenzodioxin	25 to 80	0.8642	1.4865	0.1392	1.1445	17

1) For volatile, pesticide, herbicide standards, providers must include a minimum number of analytes using the same criteria described in Chapter 2, Appendix B, Section B.1.2.

2) One sample in every study, containing one or more Aroclors, selected at random from among the Aroclors listed (1016, 1221, 1232, 1242, 1248, 1254 or 1260) for the analysis of PCBs as decachlorobiphenyl.

3) The acceptance criteria found in the EPA's *National Standards for Water Proficiency Testing Studies* are incorporated herein by reference. Acceptance criteria for FoPTs not included in the *National Standards* are presented in this table. Acceptance limits are set at the Mean ± 2 SD (Mean = a*T + b; SD = c*T + d where T is the assigned value).

4) If the lower acceptance limit generated using the criteria contained in this table is less than (<) 10% of the assigned value, the lower acceptance limits are set at 10% of the assigned value.

5) If the lower acceptance limit generated using the criteria contained in this table is greater than (>) 90% of the assigned value, the lower acceptance limits are set at 90% of the assigned value.

6) If the upper acceptance limit generated using the criteria contained in this table is less than (<) 110% of the assigned value, the upper acceptance limits are set at 110% of the assigned value.

7) Unless a fixed limit is specified, the acceptance limits for Regulated volatiles are ± 20% at ≥10 ug/L or ± 40% at <10 ug/L and the acceptance criteria for for **Unregulated** volatiles are ± 20% at ≥**15** ug/L or ± 40% at <**15** ug/L.

8) NELAC Proficiency Testing Reporting Limits (PTRLs) are provided as guidance to laboratories analyzing NELAC PT samples. These levels are the lowest acceptable results that could be obtained from the lowest spike level for each analyte. The laboratory should report any positive result down to the PTRL. It is recognized that in some cases (especially for analytes that typically exhibit low recovery) the PTRL may be below the standard laboratory reporting limit. However, the laboratory should use a method that is sensitive enough to generate results at the PTRL shown. NELAC PTRLs are also provided as guidance to PT Providers. At a minimum for all analytes with an assigned value equal to "0", the PT Provider should verify that the sample does not contain the analyte at a concentration greater than or equal to the PTRL.

9) Acceptance limits for the THMs, HAA 5, Bromate and Chlorite is the 95% Confidence Interval (CI) around the study mean. Acceptance limits equal study mean ± 2 SD unless:
If the 95% CI is greater than ± 50% of the study mean then the acceptance limit is set at 50%.
If the 95% CI is less than ± 15% of the study mean then the acceptance limit is set at 15%.

10) The Acceptance Criteria for Total Hardness as CaCO3 is a function of the Lower Acceptance Limit (LAL) and Upper Acceptance Limit (UAL) of both Calcium and Magnesium and are calculated as follows:
Lower Acceptance Limit = Ca LAL*2.497 + Mg LAL*4.118
Upper Acceptance Limit = Ca UAL*2.497 + Mg UAL*4.118